NELEPETS, V.S., kandidat tekhnicheskikh nauk, dotsent; BELOTSERKOVSKIY, G.V., inzhener; BOGOMOLOVA, A.F., redaktor; GLADKIKH, N.N., tekhnicheskiy redaktor.

[Principles of radar] Osnovy radiolokatsii. Moskva, Gos. izd-vo oboronnoi promyshlennosti, 1954. 303 p. (MLRA 8:1)
(Radar)

Nelepets, Vasiliy Stanislavovich

M/
.1.2
.M4

Antenny metrovykh voln /Metric wave antennas/ Moskva, Voyenizdat, 1957.
70 p. illus., diagrs. (Radiolokatsionnaya Tekhnika)

PHASE I BOOK EXPLOITATION 814

Nelepets, Vasiliy Stanislavovich, Docent, Candidate of Technical Sciences Antenny metrovykh voln (Meter-wave Antennas) Moscow, Voyen. izd-vo M-va obor. SSSR, 1957. 70 p. (Series: Radiolokatsionnaya tekhnika) No. of copies printed not given.

Ed.: Karus', A.P., Engineer-Major; Tech. Ed.: Mednikova, A.N.

PURPOSE: This brochure is addressed to officers engaged in the operation of radio communications equipment. It may also be used by readers desiring detailed information on the operation of the separate units and components of radar equipment.

COVERAGE: The brochure is part of a series published by the Military Publishing House and entitled "Radiolokatsionnaya tekhnika" (Radar Technique). A list of the various titles constituting the series is given on the inside back cover of each brochure. The present work is a popular treatment of the physical processes taking place in meter-wave antennas. The basic properties and parameters of such antennas are given as well as some information on meter-wave radar atennas. No personalities are mentioned. There are no references.

Card 1/2

Meter-wave Antennas 814

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AVAILABLE: Library of Congress (TK6590.A6N4)

JP/whl
11-21-58

Card 2/2

PHASE I BOOK EXPLOITATION SOV/5133

Nelepets, Vladimir Vasil'yevich, Engineer, and Vasiliy Stanislavovich Nelepets, Engineer, Docent, Candidate of Technical Sciences

Impul'snyye rezhimy v radiotekhnicheskikh tsepyakh (Pulsed Operating Conditions in Radio Engineering Networks) Moscow, Voyen. izd-vo M-va obor. SSSR, 1960. 181 p. No. of copies printed not given.

Ed.: F. I. Barsukov; Tech. Ed.: G. F. Sokolova.

PURPOSE: The book is intended for students of military schools and tekhnikums and for persons concerned with the operation of radio facilities and other pulsing systems.

COVERAGE: The book describes physical processes occurring in various radio engineering networks under pulsed operating conditions. It deals with a variety of problems connected with the generation, conversion, and amplification of pulse signals. Calculation by means of higher mathematics has been avoided, which enables the general reader to make use of the book. Chs.

Card 1/4

I and III were written by both authors and the remainder by V. V. Nelepets. The authors thank I. D. Sidorov, Lt. Colonel, and V. F. Skiter, Engineer, Lt. Colonel, for reviewing the book. There are 12 references, all Soviet.

TABLE OF CONTENTS:

NELEPETS, Vasiliy Stanislavovich, kand. tekhn. nauk, dots.;
STEPANENKO, Vladimir Danilovich, kand. fiz.-mat. nauk, dots.;
KHAKHALIN, V.S., otv. red.; VLASOVA, Yu.V., red.; SERGEYEV,
A.N., tekhn. red.

[Use of radiolocation methods in meteorological observations]
Radiolokatsionnye metody meteorologicheskikh nabliudenii.
Leningrad, Gidrometeoizdat, 1961. 174 p. (MIRA 15:4)
(Radar meteorology)

69267
SOV/112-59-17-37505

9,4220

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 17, pp 235-236 (USSR)

AUTHORS: Kornilov, S.A., Nelepets, V.V.

TITLE: Experimental Characteristics of the Reflex Clystron as a Regenerative Microwave Amplifier

PERIODICAL: Nauchno-tekhn. inform. byul. Leningr. politekhn. in-t, 1958, Nr 5, pp 40-47

ABSTRACT: Results of a study of operating characteristics of regenerative VHF-amplifiers on reflex clystrons of 3 cm and 10 cm band are cited. The measurements in the 10 cm band were carried out on clystrons with an outside resonator; the regulation of the feedback factor was performed by the change of the beam current. The measurements in the 3 cm band were performed on clystrons with inside resonators; a special device for reduction of the loaded circuit quality was used. The obtained values of the amplification coefficient and graphs of dependence of the pass-band of the amplifier on the amplification coefficient are supplied. The maximum attainable amplification for clystrons of both types is approximately 30 - 35 db. On the clystron of the 3 cm band it was possible to obtain a pass-band of approximately 10 Mc at an amplification of 10 - 15 db. The sensitivity of clystrons of both types was

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Experimental Characteristics of the Reflex Clystron as a Regenerative Microwave Amplifier

approximately $10^{-11} - 5 \cdot 10^{-12}$ w. Conditions regarding the stability of power sources are discussed. The behavior of amplifiers at high levels of the input signal was studied. A satisfactory agreement of experimental data with the conclusions of the theory, developed by one of the authors, is pointed out.

S.A.A.

Card 2/2

PHASE I BOOK EXPLOITATION SOV/5133

Nelepets, Vladimir Vasil'yevich, Engineer, and Vasiliy Stanislavovich Nelepets, Engineer, Docent, Candidate of Technical Sciences

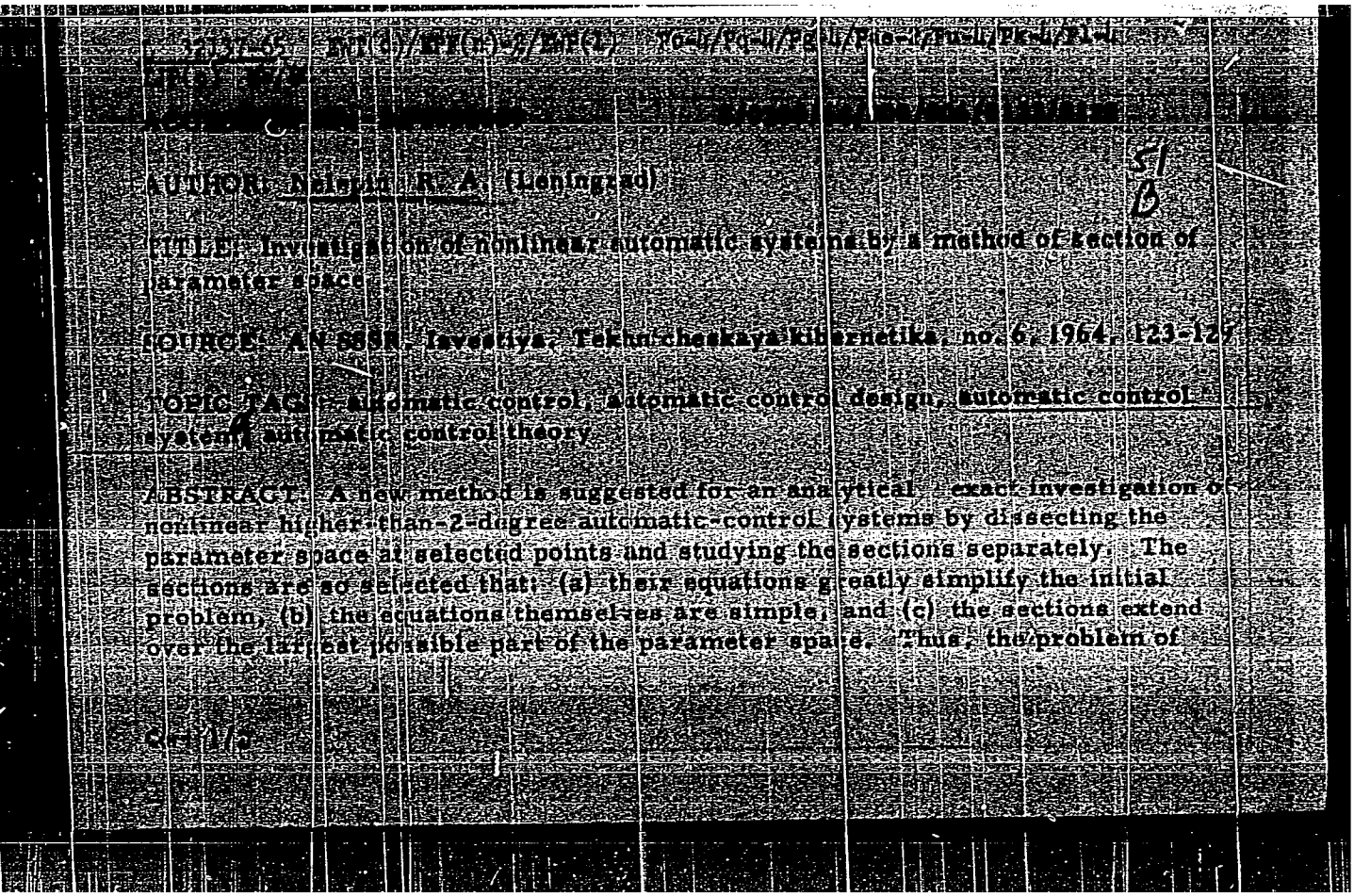
Impul'snyye rezhimy v radiotekhnicheskikh tsepyakh (Pulsed Operating Conditions in Radio Engineering Networks) Moscow, Voyen. izd-vo M-va obor. SSSR, 1960. 181 p. No. of copies printed not given.

Ed.: F. I. Barsukov; Tech. Ed.: G. F. Sokolova.

PURPOSE: The book is intended for students of military schools and tekhnikums and for persons concerned with the operation of radio facilities and other pulsing systems.

COVERAGE: The book describes physical processes occurring in various radio engineering networks under pulsed operating conditions. It deals with a variety of problems connected with the generation, conversion, and amplification of pulse signals. Calculation by means of higher mathematics has been avoided, which enables the general reader to make use of the book. Chs.

Card 1/4



AUTHOR: Aizerman, M. A. (Leningrad)

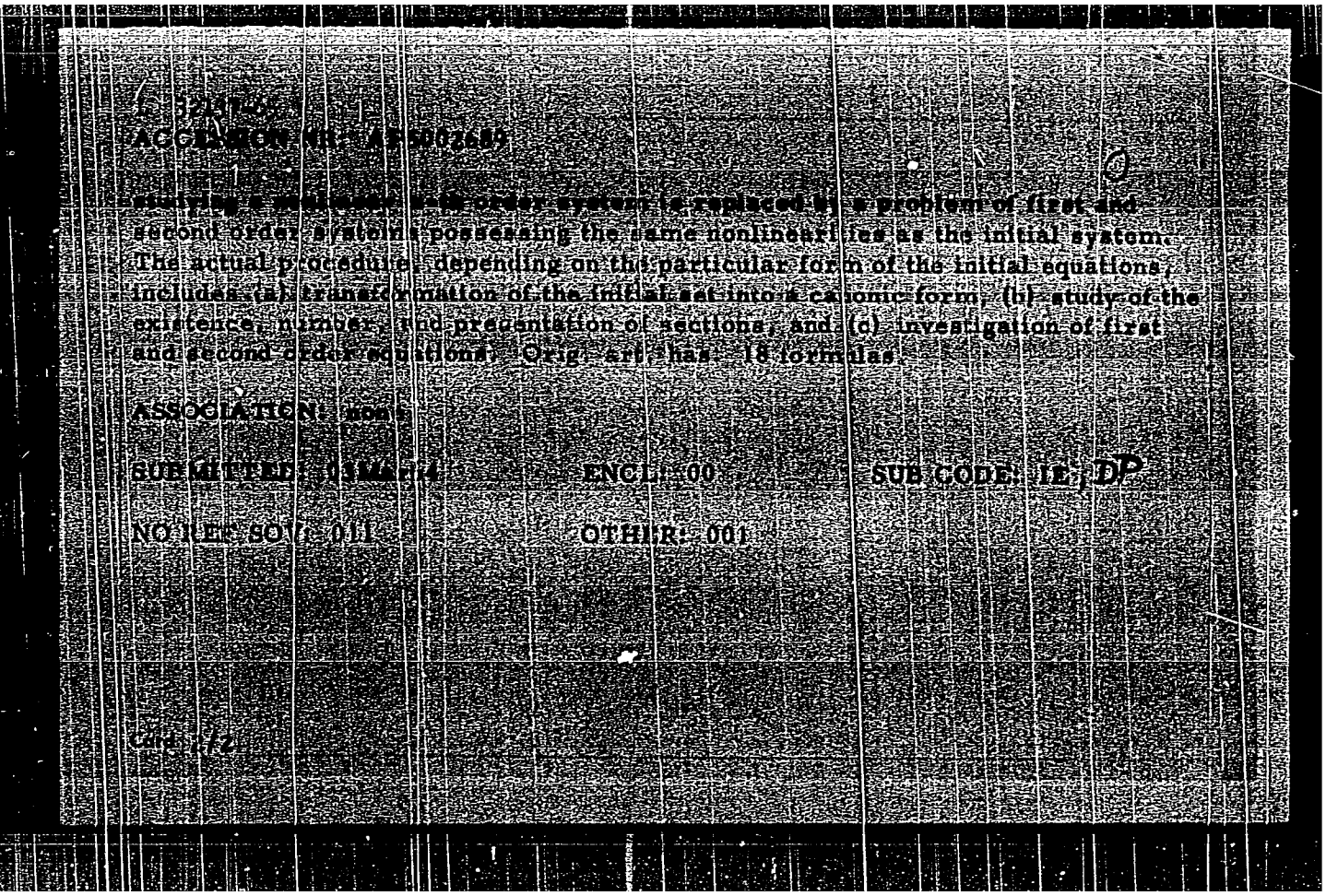
TITLE: Investigation of nonlinear automatic systems by a method of dissection of parameter space

SOURCE: AN SSSR. Izvestiya. Tekhnicheskaya kibernetika, no. 6, 1964, 123-127

TOPIC TAGS: automatic control, automatic control design, automatic control system, automatic control theory

ABSTRACT: A new method is suggested for an analytical exact investigation of nonlinear higher-than-2-degree automatic-control systems by dissecting the parameter space at selected points and studying the sections separately. The sections are so selected that: (a) their equations greatly simplify the initial problem, (b) the equations themselves are simple, and (c) the sections extend over the largest possible part of the parameter space. Thus, the problem of

Card 1/2



ACCESSION NR: AP5003689

Studying a nonlinear, n-th order system is replaced by a problem of first and second order systems possessing the same nonlinearities as the initial system. The actual procedure, depending on the particular form of the initial equations, includes (a) transformation of the initial set into a canonic form; (b) study of the existence, number, and presentation of sections; and (c) investigation of first and second order equations. Orig. art. has: 18 formulas.

ASSOCIATION: none

SUBMITTED: 03Mar64 ENCL: 00 SUB CODE: IE, DP

NO REF SOV: 011 OTHER: 001

Card 2/2

NELEPIN, R.A., inzhener.

Dynamics of an automatic control system having power feedback allowing for coulomb friction. Energomashinostroenie 3 no.9:25-29 S '57. (MIRA 10:10)
(Automatic control)

SOV/24-59-1-9/35

AUTHOR: Nelepin, R.A. (Leningrad)

TITLE: The Dynamics of Indirect Control with Allowance for Coulomb Friction in the Throttle and Servomotor and for Saturation-Type Nonlinearity in the Servomotor (Dinamika nepryamogo regulirovaniya pri uchete kulonovskogo treniya v zolotnike i servomotore i nelineynoy kharakteristiki servomotora tipa nasyshcheniya)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, Energetika i Avtomatika, 1959, Nr 1, pp 65-73 (USSR)

ABSTRACT: The perturbed motion of a control system described by a set of equations that contains no inertial term is considered - Eq 1. The inertial terms have been eliminated by a method that is not given (see Andronov (Ref 1) where the "point transforms" method is elaborated). The system is that of a servo used to control some other object. The phase trajectories are given (Fig 1) and the equations applicable to various areas in the phase plane are listed systematically. Three figures (3a, 3b and 3B) are given that can be used as nomograms to find the regions of absolute stability

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SOV/24-59-1-9/35

The Dynamics of Indirect Control with Allowance for Coulomb Friction in the Throttle and Servomotor and for Saturation-Type Nonlinearity in the Servomotor

for any such system; they are constructed in parametric form. The treatment is otherwise of standard type. There are 5 figures and 3 Soviet references.

SUBMITTED: 14th April 1958

Card 2/2

85650

S/103/60/021/006/018/027/XX
B019/B063

16.9500 (1024, 1132, 1344)

AUTHOR: Nelepin, R. A. (Leningrad)

TITLE: The Theory of Some Systems for the Indirect Control with Some Essential Non-linearities

PERIODICAL: Avtomatika i telemekhanika, 1960, Vol. 21, No. 6, pp. 698-705

TEXT: Simplified systems with non-linearities, such as hysteresis, dead zones, and saturation effects, were studied. For the systems considered it is assumed that the object is described by the equation $T_a\dot{\varphi} + k\varphi = \mu$ (1), the pickup by the equation $\gamma\eta + b\,\mathrm{sign}\dot{\eta} = \varphi + \delta\mu$ (2), and the servo-motor with a dead zone and a limited power by the equation $T_s\dot{\mu} - c\,\mathrm{sign}\eta = -\eta$ (3). T_a and T_s are the time constants of the object and the servo-motor; k is the self-balancing coefficient; γ is the irregularity factor of the pickup; δ is the feedback coefficient factor; and b and c are the coefficients of insensitiveness. Equations (1) - (3) describe such types of controllers as are installed in apparatus of

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The Theory of Some Systems for the Indirect Control With Some Essential Non-linearities

S/103/60/021/008/018/027/XX
B019/B063

TsKTI imeni I. I. Polzunov, VTI imeni F. E. Dzerzhinskiy, and TsNII imeni A. N. Krylov The phase-space representation introduced in control theory by A. A. Andronov and his collaborators is used to study this system. Using the relations $a = \frac{\delta T_a}{\gamma k T_s} \lesseqgtr 0$, $d = \frac{T_a}{\gamma k^2 T_s} > 0$ (for $k > 0$),

$d_1 = \frac{T_a}{\gamma k^2 T_s} > 0$ (for $k < 0$), and $G = \gamma c/b \geqslant 0$, the phase-space is divided into the regions corresponding to the various kinds of motion. The limits of the various regions are exactly determined. The represented phase space shows that Coulomb friction in the valve has a negative effect on stability. The dead zone of the servo-motor and the non-linearity of saturation have a positive effect on stability for a steady object ($k > 0$) and a negative effect for an unsteady object ($k < 0$). Finally, the self-excitation of such oscillations is discussed, which usually do not meet the operating conditions. Experimental results show that the neglect of the inertness of the control devices is fully justified in the present

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The Theory of Some Systems for the Indirect Control With Some Essential Non-linearities

S/103/60/021/006/018/027/XX
B019/B063

theory. There are 3 figures, 3 tables, and 10 references: 8 Soviet, 1 French, and 1 US.

Card 3/3

S/588/61/000/004/011/011
D234/D303

16.8000

AUTHOR: Nelepin, R.A.

TITLE: Dynamics of indirect control with variable velocity of the servo motor, taking into account the Coulomb friction in the valve and the motor

SOURCE: Avtomaticheskoye upravleniye i vychislitel'naya tekhnika, no. 4, Moscow 1961, 355 - 383

TEXT: Inertial forces of the controlling devices are neglected. The object of control may be stable, unstable or neutral. The controlling device may have a rigid feedback, positive or negative. It is found that the system can be absolutely stable, unstable, have natural oscillations or be stable for certain small (but finite) initial deviations and unstable in case of larger initial deviations. The division of the space of essential parameters of the system into domains corresponding to these types of motion, is discussed in detail. A system of equations is derived for the limits of the doamin of absolute stability, and numerical solution of the-

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se equations is represented on graphs. The results for particular cases coincide with those obtained previously The limits of the domain of absolute stability are found to depend only on the ratio of the Coulomb friction in the valve to that in the servo motor. If the object is stable, the domain of stability becomes wider when this ratio increases. Parameters of limiting cycles of the case of possibility of natural oscillations and the conditions of monotony of the transition process are derived. There are 14 figures, 1 table and 13 Soviet-bloc references.

VB

NELEPIN, R.A. (Leningrad)

Investigation of nonlinear automati systems by a method for cross sectioning of parametri space. Izv. AN SSSR. Tekh. kib. no.6:123 '62 (MIRA 18.3)

MELEPIN, R.A.

Strict analysis of systems with two nonlinear elements. Izv.vys. uchet.zav.; radiofiz. 8 no.3:579-588 '65.

(MIRA 18:8)

NELEPIN, R.A.

Study of high-order nonlinear automatic systems by accurate analytic methods. Dokl. AN SSSR 161 no 4:771-773 Ap '65. (MIRA 18:5)

1. Submitted October 29, 1964.

NE[illegible]N, R.A. (Leningrad)

Use of the method of [illegible]ace cross-sections in studying the [illegible]arameters of a class of control sys[illegible]ems. [illegible]v. vy[illegible].R. Tekh. Kib. no.4, 126-133 Jl-Ag '65. [illegible]

L 39869-66 EWT(d)/EWP(1) IJP(c) GD-2

ACC NR: AP6018117 SOURCE CODE: UR/0141/65/008/003/0579/0588

AUTHOR: Nelepin, R. A.

ORG: none

TITLE: Exact methods for the study of systems with two nonlinear elements

SOURCE: IVUZ. Radiofizika, v. 8, no. 3, 1965, 579-588

TOPIC TAGS: nonlinear automatic control system, mathematic transformation, second order equation

ABSTRACT: A method for the analytical investigation of certain types of nonlinear automatic systems is proposed, based on the study of a series of specially chosen cross-sections within the parameter space of the system. Within these sections the original n-th order system is converted by an ordinary linear transformation into a set of first and second order equations mutually coupled in such a manner that they may be successively integrated provided some of them can be viewed as inhomogeneous ones. The problem is thus reduced to the much simpler and well known first and second order problem. Orig. art. has: 38 formulas. [JPRS]

SUB CODE: 12 / SUBM DATE: 17Aug64 / ORIG REF: 011 / OTH REF: 001

Card 1/1 UDC: 62-501.3

L 31530-66 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(l) BC

ACC NR: AP6009416 SOURCE CODE: UR/0020/66/166/006/1312/1314

AUTHOR: Nelepin, R. A.

52
B

ORG: None

TITLE: The synthesis of nonlinear control laws 14

SOURCE: AN SSSR. Doklady, v. 166, no. 6, 1966, 1312-1314

TOPIC TAGS: nonlinear control system, automatic control theory, control circuit, circuit design

ABSTRACT: One of the problems of automatic control is the determination of nonlinearities (mostly in servo systems) and its compensation. Particular nonlinearities should also be incorporated into the laws of motion if one wants to perfect the dynamic properties of the system under consideration. Some of these problems were solved earlier (see, e.g., M. I. Rabinovich, Izv. vyssh. uchebn. zav., Radiofizika, 5, No. 5, 998, 1962; V. A. Zamskov, B. M. Makar'yev, Izv. AN SSSR, Tekhnicheskaya kibernetika, No. 6, 60, 1963). The present article investigates another approach based on explicit analytical methods as applied to an automatic system of the n-th degree. The discussion is carried out for the example of a control system shown in Fig. 1a which is subsequently improved by taking into account the nonlinearities NE_1, NE_2, and NE_3 of the local feedback, general feedback, and the overall

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L 31530-66

ACC NR: AP6009416

control signal, respectively, as shown in Fig. 1b.

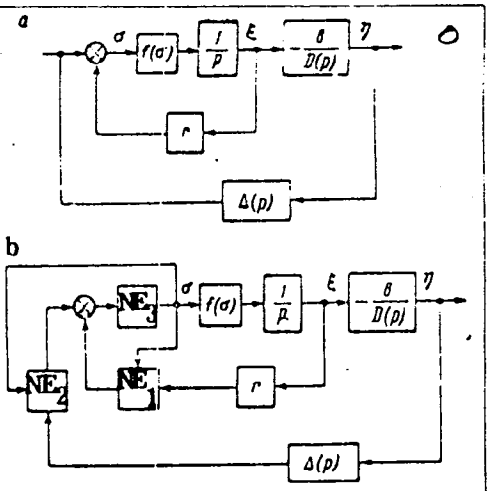
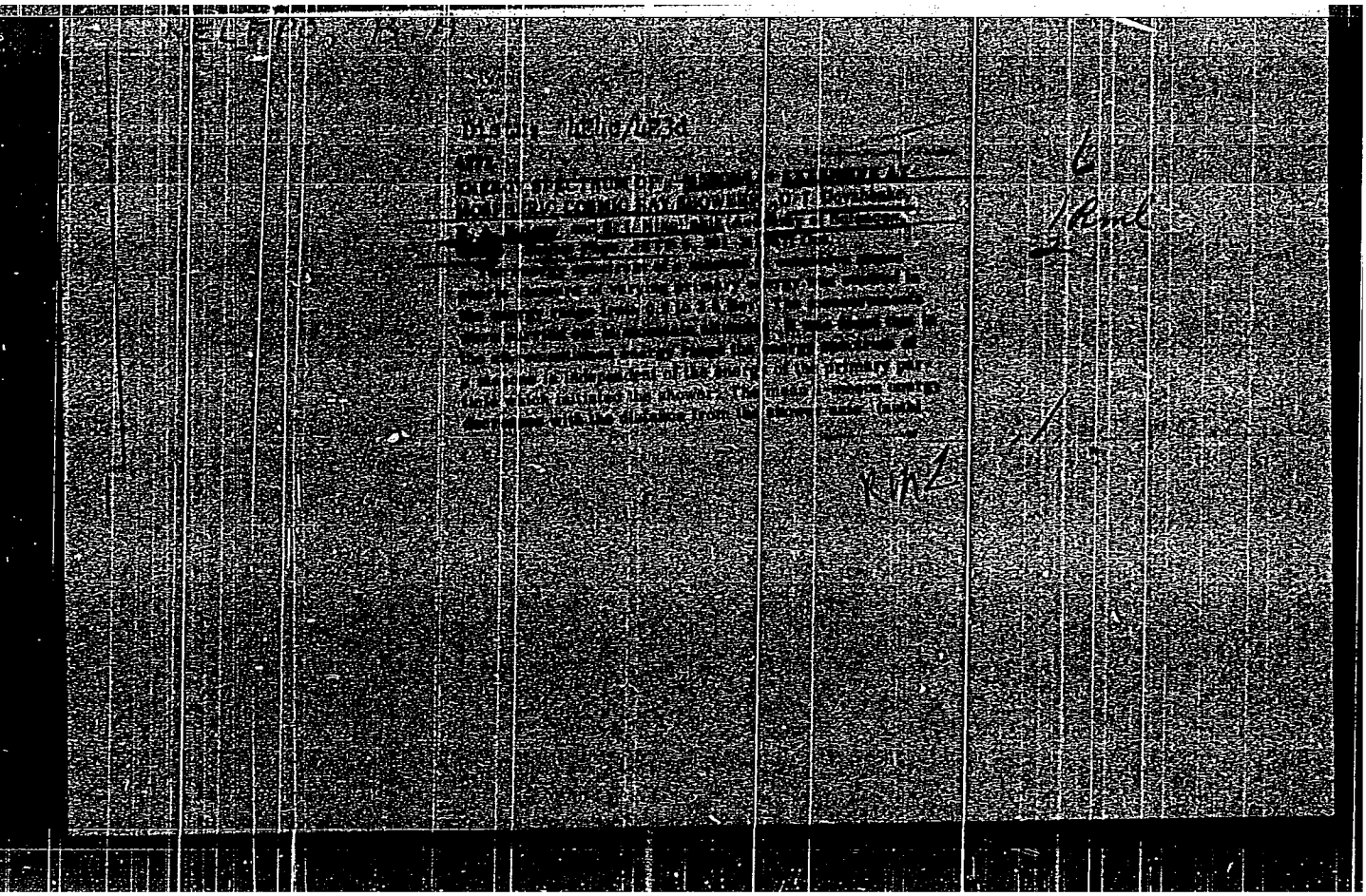


Fig. 1 A control system (a), with associated nonlinearities (b).

The new method may prove useful in motion control requiring a high degree of accuracy and employing complex laws of control. The paper was presented by Academician Petrov, B. N., 7 May 65. Orig. art. has: 11 formulas and 1 figure.

SUB CODE: 09,13/SUBM DATE: 06May65 / ORIG REF: 006

Card 2/2



AUTHOR DOVZHENKO O.I., NELEPO B.A., NIKOL'SKIY S.I. PA - 2957

TITLE The Energy Spectrum of Myons in the Broad Atmospheric Showers of Cosmic Rays.
(Energeticheskiy spektr Myonov v zhirokikh atmosfericheskikh livnyakh kosmicheskikh luchey.- Russian)

PERIODICAL Zhurnal Eksperim. i Teoret. Fiziki 1957, Vol 32, Nr 3, pp 463 - 466 (USSR).

Received: 6/1957 Reviewed: 7/1957

ABSTRACT The authors carried out experiments for the determination of the shape of the energy spectrum of myons at three different distances from the axis of a broad atmospheric shower in the Pamir (3860 m sea level) in the fall of 1954. Besides, they compared the spectra of myons in showers with different primary, energies. The energy of the myons was determined from their absorption in lead and in the ground. The general scheme of the experimental order and the section of the pit dug into the ground are shown in form of drawings. The control system consisted of three groups of GEIGER-MÜLLER counters which were located above the detectors of the penetrating particles as well as at a distance of 100 and 300 m from them. Above the detectors of the penetrating particles many hodoscopic counters for the investigation of the electron-photon components of the showers

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The Energy Spectrum of Mycns in the Broad Atmospheric Showers of Cosmic Rays.

were fitted. As in the detectors counters are used which are connected with a hodoscopic device, the cases of the passage of nuclear-passive particles (myons) and of nuclear-active particles could be distinguished according to their shower-forming ability. The large system consisting of hodoscopic counters, which was fitted above the detectors of the penetrating particles, permitted the determination of the position of the "trunk" and of the total number of the charged particles in each recorded broad atmospheric shower. In all cases investigated here the energy spectrum might be represented by the exponential law $E_{\mu}^{-\Pi}$, where E_{μ} denotes the energy of the myons. In the vicinity of the trunk of a broad atmospheric shower the energy spectrum of the myons in the interval 0,44 - 3,5 BeV does not depend upon the energy of the primary particles. A similar result is obtained also in the case of the investigation of the periphery of a broad atmospheric shower. The results found here show that the energy spectrum of the myons becomes softer with increasing distance from the axis

PA - 2957

The Energy Spectrum of Myons in the Broad Atmospheric Showers of Cosmic Rays.

of the broad atmospheric shower.
(2 Illustrations and 2 tables)

ASSOCIATION: Physical Institute "P.N. LEBEDEV" of the Academy of Science of the U.S.S.R.
PRESENTED BY: -
SUBMITTED: 3.11. 1956.
AVAILABLE: Library of Congress.

CARD 3/3

NELEPO, B. A.

"Direct Determination of the Sea Water Radioactivity in the Antarctic Area of the Pacific,"
report to be submitted for the Intl. Cong. New York City, 31 Aug - 11 Sep 1964.

s(Sea and Land Waters Physics Dept., Physical Faculty, Moscow State University)

Papers submitted for the 10th Pacific Science Congress, Honolulu, Hawaii 21 Aug-6 Sep 1961.

NAGIBINA, M. S., Institute of Geology - "Mesozoic depressions and troughs of east Asiatic type and their position in the systematics of tectonic forms" (Section VII.C)

NELEPO, B. A., Moscow State University, Physical Faculty - "The gamma-ray spectrometric measurements of artificial radioactivity in upper layers f the ocean" (Section VII.B.6)

NESTEROV, V. G., Chair of Forestry, The Agricultural Academy imeni K. A. Timiryazev - "Forest fire research and methods of fire control" (Section V.B)

OSTROUMOVA, T. A., Institute of Oceanology - "Biogeographical and morphological analysis of reproduction and development of flatfish in the seas of the northwest Pacific" (Section III.C)

OZMIDOV, R. V., Institute of Oceanology - "Investigation of the horizontal turbulent exchange in the Pacific Ocean" (Section VII.2)

PARIN, N. V., Institute of Oceanology - "Regularities in the geographical distribution of flying fishes in the Pacific Ocean" (Section VII.C)

PERGAMENT, M. A., Institute of Geology - "Stratigraphic horizons in the cretaceous deposits of Kamchatka" (Section VII.C)

PETELIN, V. P., Institute of Oceanology - "The processes of recent sedimentation in the western part of the equatorial zone in the Pacific" (Section VII.C.1)

PETRUSHEVSKIY, B. A., Institute of Earth Physics imeni O. Yu. Schmidt - "The seismic geological conditions in the northwestern outlying area of the Pacific basin" (Section VII.C.2)

PONOMAREVA, L. A., Institute of Oceanology - "Euphausiidae in the northern part of the Pacific" (Section III.C)

PORTENKO, L. A., Institute of Zoology - "The problem of the Bering land bridge from the zoological point of view" (Section III.A.3.a)

PUSHCHAROVSKIY, Yu. M., Institute of Geology - "Some specific features in the tectonics of the north part of the Pacific belt" (Section VII.C)

PYRKIN, Yu. G., Moscow State University, Physical Faculty - "A new deep-sea device for recording currents ('MGU')" (Section VII.B.5)

RADKEVICH, Ye. A., Institute of Geology - "On the stability and inheritance of structural elements in the frame of the Pacific Ocean depression" (Section VII.C)

RASS, T. S., OSTROUMOVA, T. A., and GORBUNOVA, N. N., Institute of Oceanology - "Geographical regularities in regard to reproduction and development of mass fishes in the northern part of the Pacific" (Section III.C)

ROMANKEVICH, Ye. A., Institute of Oceanology - "Organic substance in bottom sediments in the western part of the Pacific" (Section VII.C.1)

RUDICH, Ye. M., Institute of Earth Physics imeni O. Yu. Schmidt - "Relations between deep focus earthquakes in the eastern margin of Asia and large structures of the earth crust" (Section VII.C.2)

RYABCHIKOV, A.M., Moscow State University, Geographical Faculty - "The structure of natural zonatic in east Asia" (Section VI.C)

RYKUNOV, L. N., Moscow State University, Physical Faculty, Chair of Hard Crust - "The correlative method for studying microseism" (Section VII.C.2)

SAIDOVA, Kh. M., Institute of Oceanology - "The distribution of bottom lime Foraminifera in the northern part of the Pacific and its use for the reshaping of the paleorelief" (Section VII.C.1)

SAMOYLENKO, V. S., Institute of Oceanology - "Problems concerned with the theory of formation of the temperature regime in seas and oceans" (Section VII.A)

SEMINA, G. I., Institute of Oceanology - "Biogeographical zonation of the Pacific Ocean in regard to phytoplankton" (Section III.A)

SEROVA, M. Ya., Institute of Geology - "Paleogene Foraminifera of Kamchatka" (Section VII.C)

SAVILOV A I SEVILOV, A. Y., Institute of Oceanology - "Velella and Physalia in the pleiston of the Pacific" (Section III.C)

SHECHKALAN, M., Institute of Earth Physics imeni O. Yu. Schmidt - "Mechanism of ocean-origin (?) origin" (Section VII.C.2)

SHOSHIN, A. A., The Central Organization of Leningrad - "The main problems of human illness geography and their significance for prophylactic medicine" (Section VII.3.4)

SHUMSKIY, P. A., Institute of [illegible] Studies - "Glaciology of Antarctica" (Section VII.D.1)

SYSOYEV, N. N., Institute of Oceanology - "Methods for measuring deep currents in the ocean and some results of their application in the Pacific Ocean" (Section VII.B.5)

NELEPO, B. A., Dr., Faculty of Physics, Moscow State University. Invited to give paper in Symposium on Radioactive Tracers in Oceanography (Section VII.B)

NELEPO, B. A.

S/188/60/000/004/009/014
B005/B060

AUTHOR: Nelepo, B. A.

TITLE: Determination of the Coefficients of Turbulent Diffusion in the Sea With the Aid of Radioactive Indicators

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya 3, fizika, astronomiya, 1960, No. 4, pp. 64-70

TEXT: The author of the present paper studied turbulent diffusion in the sea with the aid of radioactive I^{131} indicators. This isotope is a gamma emitter (0.7 Mev) and has a half-life of 8.1 days. Preliminary experiments revealed that 0.1 - 1 millicurie of this isotope are sufficient for carrying out the measurements. An apparatus was worked out at the author's institute under the direction of Professor A. G. Kolesnikov in 1956 which serves for investigating the intensity of turbulent diffusion in a vertical direction in the sea. The investigations described in the present paper were carried out with this apparatus in the summer of 1956 in the Black Sea (Chernomorskiy filial

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Determination of the Coefficients of Turbulent Diffusion in the Sea With the Aid of Radioactive Indicators

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B005/B060

Morskogo gidrofizicheskogo instituta AN SSSR (Black Sea Branch of the Maritime Hydrophysical Institute of the AS USSR)). Mode of operation and the parts of the apparatus are described in great detail. The recorders each consist of eight Geiger-Müller counters of the type МС-7 (MS 7) and a cathode repeater for each channel. Once recorded, the pulses are in a very definite manner transformed on a control board, and are then recorded by a loop oscilloscope of the type ПО-4 (PO-4). The oscillogram directly shows the change in concentration of the radioactive indicator with time. The emission source consists of a rotary drum onto which ampuls with the radioactive indicator solution are radially fastened. The drum axle is firmly connected with the recorder. When the drum turns, the ampuls move successively past a knife which cuts them open. In this manner, as much as 16 measurements can be made successively. A detailed section of the present article is devoted to the theory of the method. The equation for calculating the diffusion coefficient for the vertical turbulent diffusion in sea water is given. The diffusion coefficients determined from this equation were in very good agreement

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Determination of the Coefficients of Turbulent Diffusion in the Sea With the Aid of Radioactive Indicators

S/188/60/000/004/009/014
B005/B060

in a series of measurements, and their values ranged between 5 and 7 cm^2/sec. The method described here has several advantages as compared with other methods, and is suited for work at expeditions. The accuracy of this method can further be increased by the use of scintillation counters in recorders in connection with gate circuits. The author thanks Professor A. G. Kolesnikov for his help in operating the apparatus and for his valuable advice in the interpretation of results obtained. There are 3 figures.

ASSOCIATION: Moskovskiy universitet Kafedra fiziki morya i vod sushi (Moscow University, Chair of the Physics of Sea and Inland Waters)

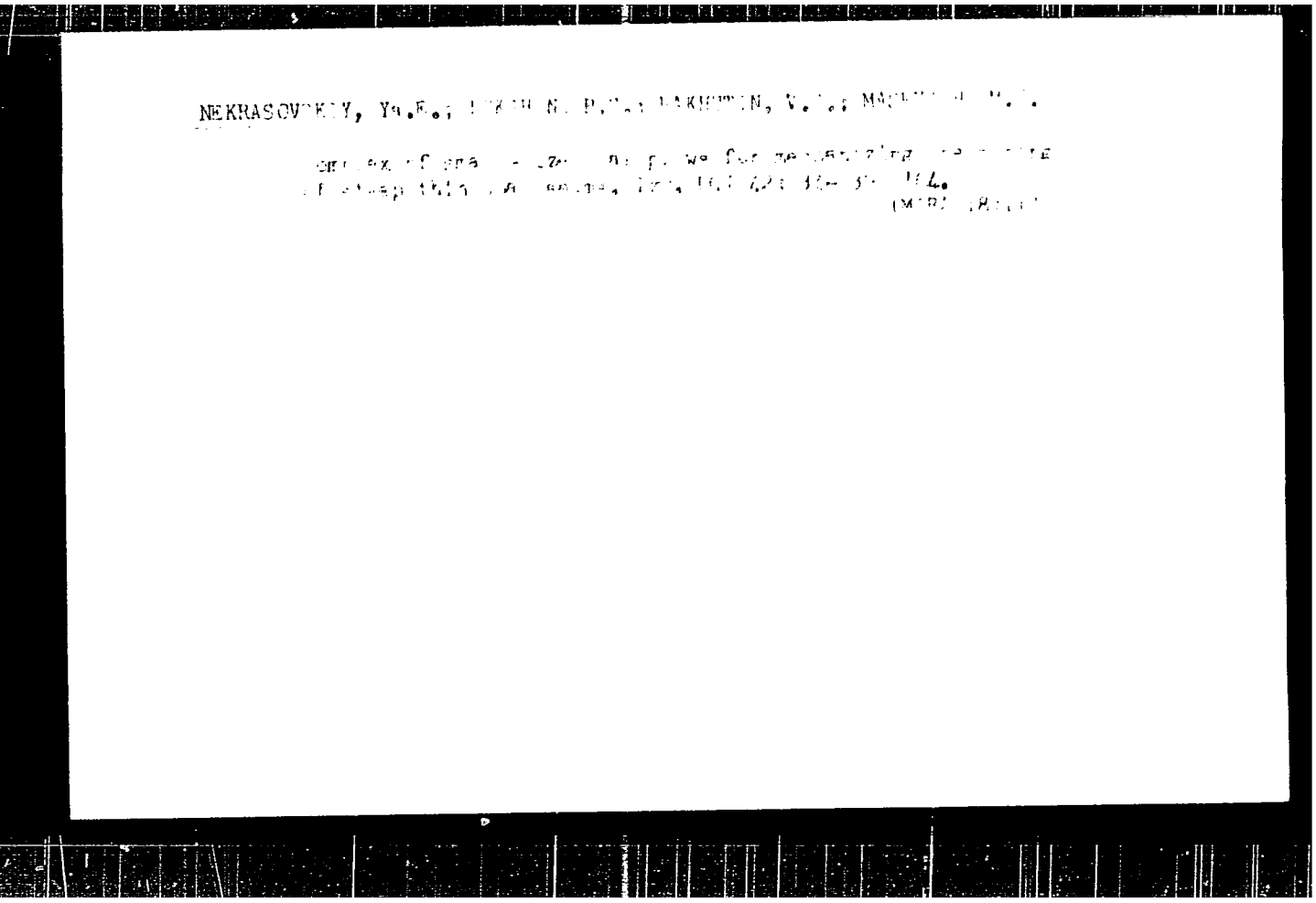
SUBMITTED: February 1, 1960

Card 3/3

NELEPO, B.A.

Direct method of determining the radioactivity of ocean waters in the Antarctic region of the Pacific Ocean. Trudy Okean. kom.10 no.141-143 '60. (MIRA 14:6)

1. Kafedra fiziki morya i vod sushi Moskovskogo gosudarstvennogo universiteta.
(Pacific Ocean--Radioactivity--Measurement)



NEKRASOVSKIY, Ya.E.; [illegible] N. P.; [illegible] LAKHTIN, V.I.; [illegible]

[illegible]

[illegible] 14.
(MIRA [illegible])

L 18249-63

ACCESSION NR: AP3002117

N. N. Bogolyubov in the 1946 OTTI publication entitled "Problems of dynamic theory in statistical physics". Orig. art. has: 39 formulas.

ASSOCIATION: L'vivs'ky*y Derzhuniversy*tet im. Iv. Franka (Lvov State University im. I. Frank)

SUBMITTED: 29 Nov 62 DATE ACQ: 12 Jul 63 ENCL: 00

SUB CODE: NS, PH NO REF SOV: 008 OTHER: 000

Card 2/2

L 6370-66

ACC NR: AP5026751 SOURCE CODE: UR/0280/65/000/017/0025/0026

INVENTOR: Artemenko, Ye. P.; Politova, A. Ye.; Polchaninov, V. A.; Nekrovenko, N. V.; Zemskov, B. A.

TITLE: A multisectional collapsible girder post. Class 21, No. 174226 [announced by Organization of the Ministry of Defense SSSR (Organizatsiya Ministerstva oborony SSSR)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 17, 1965, 25-26

TOPIC TAGS: hoisting equipment, construction machinery

ABSTRACT: This Author's Certificate introduces a multisectional collapsible girder post of improved operational reliability based on Author's Certificate No. 158606. A hoisting carriage is fastened in a gap in the load chain by means of a hinged link which is connected with a pivoted block used for forced collapse of the post sections. This carriage contains a spring-return catch made in the form of a hinged lever with a triangular groove and trihedral teeth in the free end.

UDC: 621.396.676

Card 1/2

0902 0152

L6370-66

ACC NR: AP5026751

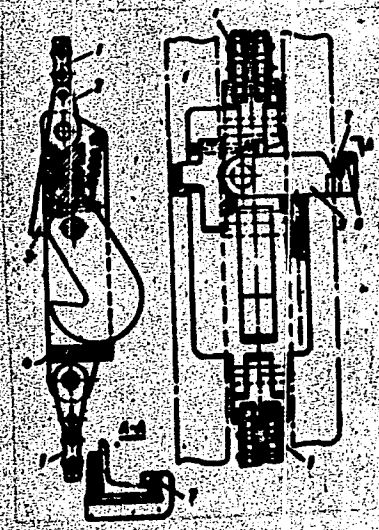


Fig. 1. 1--load chain; 2--hinged link; 3--pivoted block; 4--hoisting carriage; 5--catch lever; 6--groove in the lever; 7--trihedral teeth

SUB CODE: GO,IE/ SUBM DATE: 22Aug64/ ORIG REF: 000/ OTH REF: 000

Card 2/2

24.2120

S/250/62/006/005/005/00[illegible]
I004/I204

AUTHORS: Nekrshevich, I. G. and Bakuto, I. A.

TITLE: Efficiency of electric spark machining as a function of pulse repetition rate and the average current value

PERIODICAL: Akademiya nauk Belaruskay SSR. Doklady, v. 6, no. 5, 1962, 308-310

TEXT: The purpose of the work was to investigate the above dependence because of it's theoretical and practical importance. The formula derived theoretically

$$M = \frac{v_0}{s_0^2} A I_{av}^2 \frac{1}{\tau f}$$

(*A*—constant dependent upon the electrode material, v_0, s_0 average value of the volume and area of the elementary erosion trace) gives the efficiency of the spark machining apparatus. The validity of the formula was proven experimentally, but an accurate theory of the process should take into account also the mechanism of disposal of erosion products from the interelectrode space.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN BSSR (Physico-Technical Institute AS BSSR)

SUBMITTED: February 17, 1961

Card 1/1

20663

9,1300 (also 1532)
24.2120 (1049, 1482, 1502)

S/057/61/031/001/008/017
B104/B204

AUTHORS: Golant, V. Ye., Zhilinskiy, A. P., Krivosheyev, M. V., and Nekrutkina, G. P.

TITLE: Propagation of centimetric waves by a waveguide filled with the plasma of a positive column discharge

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 31, no. 1, 1961, 55-62

TEXT: The studies which are the subject of the present report were carried out with a plasma produced in helium and argon at pressures from 0.05 to 10 mm Hg. The phase constant and the damping of homogeneous waveguides filled with plasma were determined for 3-cm and 10-cm waves. For the 3-cm wave range, two experimental arrangements were used, while one was used for the 10-cm wave range. Fig. 1 shows schemes of these arrangements. The phase shift in the waveguide was measured with a phase bridge, and damping was determined by a substitution method. Results are given in Figs. 3, 4. In evaluating the experimental results, a comparison is made with the results of a theoretical investigation by Golant et al. (Ref. 11). The relations

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S/057/61/031/001/008/017
E104/B204

$$\left.\begin{aligned}\Delta\beta &= \frac{\lambda_w}{2\lambda}\cdot\frac{A_{0F}}{F}\sigma_{1i}\int ndF,\\ \Delta\alpha &= \frac{\sigma_{1r}}{\sigma_{1i}}\Delta\beta.\end{aligned}\right\} \quad (1)$$

were obtained in first perturbation-theoretical approximation for the damping and phase constants. λ_w and λ are the wavelengths in the waveguide and in the free space; $\zeta = \sqrt{\mu_0/\varepsilon_0}$ is the wave impedance of the free space; n is the electron concentration; F is the plasma cross section; A_{0F} is a form factor; σ_{1i} and σ_{1r} are the reactive and active components of the specific high-frequency conductance of the plasma per electron. The relations

$$\Delta\beta = \frac{\lambda_w}{\lambda}\cdot\frac{A_{0F}}{F}\cdot\frac{\sigma_{1i}}{\sigma_{1n}}\cdot\frac{I}{E_n} \quad (5)$$

$$\Delta\alpha/\Delta\beta = \sigma_{1r}/\sigma_{1i}$$

Card 2/ 4

Propagation of centimetric waves ... S/057/61/031/001/008/017 B104/B204

are obtained, which establish a connection between the components of conductance and the discharge current. These relations permit the determination of $\Delta\beta$ and $\Delta\alpha$ if the electron distribution over the plasma cross section determined by the form factor A_{oF}, the longitudinal field in the positive column, and the components of conductance are known. A_{oF} was determined previously on the assumption of a diffuse electron distribution in the positive column. Furthermore, the relations

$$\frac{\sigma_{1i}}{\sigma_{1n}} = \frac{\omega/\nu}{1 + (\omega/\nu)^2} \quad \text{and} \quad \sigma_{1i}/\sigma_{1r} = \omega/\nu \qquad (6)$$

were substituted in formulas (5); σ_{1n} is the specific conductance in a constant field per electron. As follows from the comparisons shown in Figs. 3, 4, and 5, the deviation never attains more than 30%. The ratio $\Delta\beta/\Delta\alpha$ shows better agreement with experimental values. This is explained by the fact that this ratio is independent of the spatial electron distribution and the strength of the longitudinal field. There are 7 figures and 17 references:

Card 3/ 7

20663

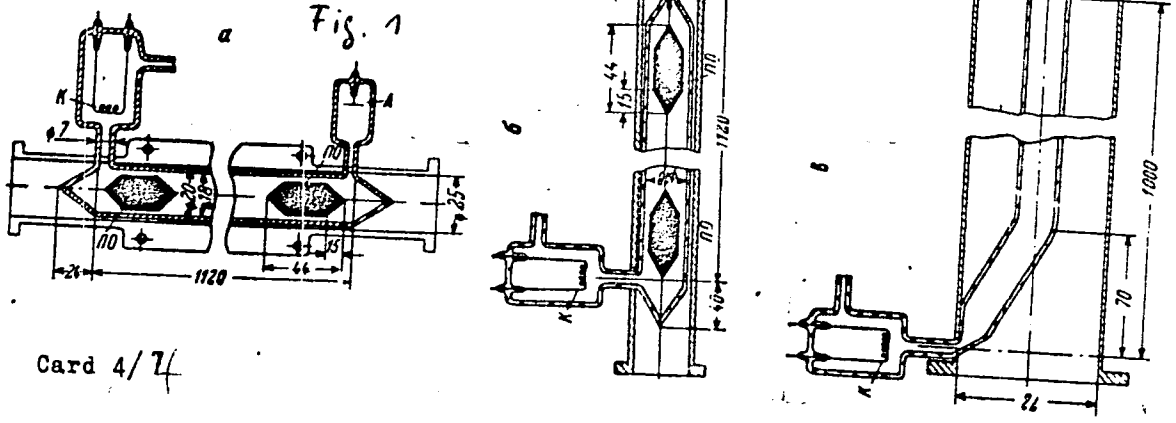
Propagation of centimetric waves ... S/057/61/031/001/008/017
B104/B204

8 Soviet-bloc and 8 non-Soviet-bloc.

ASSOCIATION: Leningradskiy politekhnicheskiy institut im. M. I. Kalinina
(Leningrad Polytechnic Institute imeni M. I. Kalinin)

SUBMITTED: July 13, 1960

Fig. 1



Card 4/ 7

NELEPO, B.A.

Gamma-spectrometric measurements of the radioactivity of water in the Atlantic Ocean. Ves. Mosk. un. Ser. 3: Fiz., astron. 15 no.5: 36-42 S-O '60. (MIRA 14:2)

1. Moskovskiy gosudarstvennyy universitet, kafedra fiziki morya i vod sushi.

(Atlantic Ocean--Radioactivity)

NELEPO, B.A.

Some results of measurements of the general radioactivity of the ocean water in the Antarctic Zone of the Pacific Ocean. Vest. Mosk. un. Ser. 3: Fiz., astron. 15 no.5:43-46 S-O '60. (MIRA 14:2)

1. Moskovskiy gosudarstvennyy universitet, kafedra fiziki okeana i vod sushi.

(Antarctic region--Radioactivity)

84685

S/020/60/134/004/009/023
B019/B067

3,6000

AUTHOR: Nelepo, B. A.

TITLE: Study of the Radioactivity of Water in the Atlantic

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol 134, No 4, pp. 810 - 811

TEXT: From 1958 to 1959 an instrument was designed at the Kafedra fiziki morya i vod sushi fizicheskogo fakul'teta MGU (Chair of Physics of the Ocean and the Inland Waters of the Physics Department of MGU) under the supervision of A. G. Kolesnikov, which allows the direct measurement of radioactivity in sea water. In principle, this instrument is a scintillation spectrometer which allows not only the determination of the distribution of radioactive elements down to a depth of 120 m but also their identification. The measurements were made aboard the expedition vessel "Mikhail Lomonosov" of the AS USSR from October 1 - 20, 1959 The ship moved from 22°45' northern latitude and 63°06' western longitude to 15°22' northern latitude and 20°56' western longitude. As may be seen from the diagram the K^{40}-isotope is uniformly distributed in all depths, where-

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Study of the Radioactivity of Water in the Atlantic

S/020/60/134/004/009/023
B019/B067

as the concentration of Cs^{137}, Kr^{85}, and Eu^{155} considerably decreases. In conclusion, the author states that the homogeneous distribution of radioactivity in the region investigated indicates the atmospheric character of contamination. Three clearly distinct layers of contamination may be distinguished. The upper layer with a maximum radioactivity and an equal distribution of activity, the central layer with a strong decrease, and the lower layer with low activity. The decrease in activity of each of the isotopes is connected with the corresponding half-life periods. The author thanks Professor A. G. Kolesnikov for his assistance in designing the instrument and in evaluating the results. There is 1 figure.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M V Lomonosova (Moscow State University imeni M V. Lomonosov)

PRESENTED: April 26, 1960, by V. V. Shuleykin, Academician

SUBMITTED: April 10, 1960

Card 2/2

NELEPO, B.A.

Radioactivity problems. Okeanologiia 2 no.3:457-463 '62.
(MIRA 15:7)
(Ocean) (Radioactivity)

L 21935-66 EWA(h)/EWT(1)/EWT(m)/FCC EW

ACC NR: AP6014485 SOURCE CODE: UR/0089/65/019/005/0469/0470

AUTHOR: Kotel'nikov, V. P.; Markelov, V. N.; Nalepo, B. A.

ORG: none

TITLE: New data on the atmospheric radioactivity and fallout density near the Black sea

SOURCE: Atomnaya energiya, v. 19, no. 5, 1965, 469-470

TOPIC TAGS: atmospheric radioactivity, research ship, scintillation spectrometer, radioactive fallout, radioactive aerosol, radon, thoron, cesium, cerium, manganese, ruthenium, rhodium

ABSTRACT: During August and September 1964, at the time of the 16th cruise of the research ship Mikhail Lomonosov, the artificial radioactivity of the atmosphere over the Black Sea was determined. The concentration and isotopic composition of the radioactive elements in the lower layers of the atmosphere, the density, and short-lived isotope concentration of the fallout were measured. The aerosols were collected by means of a 225 m^3/hour capacity air filtering system while the fallout samples were obtained from the deposits of trays containing oil-soaked filter paper, placed at a height of 14 meters over the surface of the water. A scintillation spectrometer was used to determine the isotopic composition from 8.9 to 66.6 x 10^{-4} disintegrations/sec m^3, with an average value of 34.4 x 10^{-4}. The average density of the long-lived radioactive fallout at sea level ranged from 3.3 to 221 x 10^{-1} disintegrations/sec m^2.

Card 1/2 UDC: 551.577.7:541.182.2/3

L 21935-66
ACC NR: AP6014485

with an average of 46.0×10^{-1}. During the days with precipitation, the concentration of radioactive products in the atmosphere decreased and the activity of the fallout increased. The average concentration of natural radioactive products from the decay of radon and thoron were found to be 9.2×10^{-1} and 17.7×10^{-1} disintegrations/sec m^3, respectively. Thus, the radon daughter concentration was higher by three orders of magnitude than that of aerosols containing long-lived radioactive fission products. The following nuclides were identified in the atmospheric samples: ^{144}Ce, $^{106}Ru + ^{106}Rh$, ^{137}Cs, and ^{54}Mn. The data agreed with other published values but they indicated a slight increase of the concentration and a reduction of the density of the average daily fallout at the Black Sea region in comparison with results obtained during the ninth cruise of the ship in October 1960. Orig. art. has: 2 figures and 1 table. [NA]

SUB CODE: 18, 04 / SUBM DATE: 19Mar65 / ORIG REF: 001

Card 2/2 mat

L 21933-66 EWT(1)/EWT(m)/FCC DIAAP GW

ACC NR: AP6014487 SOURCE CODE: UR/0089/65/019/005/0472/0474

AUTHOR: Gedeonov, L. I.; Dmitriyev, V. N.; Nelepo, B. A.; Stepanov, A. V.; Yakovleva, G. V. 40 36 8

ORG: none 19

TITLE: Radioactivity of the air over the Atlantic Ocean in May to July, 1964

SOURCE: Atomnaya energiya, v. 19, no. 5, 1965, 472-474

TOPIC TAGS: atmospheric radioactivity, radioactive fallout, research ship, radioactive aerosol

ABSTRACT: The radioactivity of the air and the fallout over the Atlantic Ocean were studied during the 15th cruise of the research ship Mikhail Lomonosov. The samples were collected by filtering the air and allowing the fallout to deposit on a sticky surface. The samples collected south of 8° latitude south, north of 8° latitude north, and between 8° latitude south and 8° latitude north were determined jointly. Comparison of the results with those obtained during the 12th cruise of the ship, at the end of 1962, revealed that, because nuclear testing in the atmosphere was stopped the specific activity of the aerosols in the lower layer of the atmosphere decreased by about an order of magnitude. Within 38 and 5° latitudes north, the concentration of the aerosols was practically independent of the place of collection, due to the mixing of the atmosphere by the trade winds. No direct correlation could be established between the concentration of radioactive aerosols and the fallout

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UDC: 551.594.1:541.182.2

L 21933-66

ACC NR: AP6014487

4

rate, on one hand, and the average daily values of the atmospheric pressure, and temperature, on the other hand. The high fallout rate in the equatorial region was due to the heavy prevailing rainfall. The aerosol concentration was much lower in the equatorial region and the southern hemisphere than in the northern hemisphere. Averaged data of previous cruises indicated that the highest fission product concentrations are distributed between 14 and 40° latitude north; the activity of the air in the southern hemisphere amounted to only 10% of that in the northern hemisphere. The authors thank V. M. Vdovenko and A. G. Kolesnikov for making possible the completion of this work. Further thanks is rendered I. N. Maksimov and L. N. Syrcovaya for their assistance in processing the results of the research. Orig. art. has: 4 figures and 1 table. [NA]

SUB CODE: 18, 04 / SUBM DATE: 01Mar65 / ORIG REF: 003

Card 2/2 mst

L 36936-66 EWT(1)/FCC GW

ACC NR: AT6023555 SOURCE CODE: UR/3095/66/036/000/0031/0036

AUTHOR: Vavilov, Yu. N.; Nelepo, B. A.; Pugacheva, G. I.; Fedorov, V. M.

ORG:

TITLE: Device for measuring cosmic-ray intensity at great depths

SOURCE: AN UkrSSR. Morskoy gidrofizicheskiy institut. Trudy, v. 36, 1966, Metody i pribory dlya issledovaniya fizicheskikh protsessov v okeane (Methods and instruments for studying physical processes in the ocean), 31-36

TOPIC TAGS: cosmic ray, Cherenkov counter, bremsstrahlung, photonuclear energy, electromagnetic field, atomic nucleus, COSMIC RAY INTENSITY, OCEAN PROPERTY

ABSTRACT: Ten times less cosmic rays than γ-rays are absorbed in water. Cosmic rays recorded in ground with a water equivalent of 20-m depth consist of μ-mesons as particles with the most penetrating ability. The absorption of μ-mesons by matter during interaction may be computed by the energy loss using the formula

$$\frac{dE}{dx} = a + (b_t + b_p + b_{ya})E,$$

where E is the energy of a μ-meson, x is the depth of the absorber, expressed in

Card 1/2

L 36936-66

ACC NR: AT6023555

g/cm^2, and a characterizes the loss of speedy particles by ionization; a increases according to a logarithmic law of energy, b_t expresses the loss of μ-mesons by bremsstrahlung, b_p expresses the energy loss by generation of electron and positron pairs by a μ-meson, b_{ya} expresses the loss of photonuclear energy of a μ-meson generating electron nuclear showers. The electromagnetic field of a μ-meson is able to interact with atomic nuclei. Cherenkov counters are used for measurements of μ-meson intensity of great depths. The counter is spherically shaped and filled with water; the inside paint diffuses light and has a reflection coefficient of 90%. As a μ-meson crosses the diameter of the sphere, it generates $2 \cdot 10^4$ photons of Cherenkov radiation in the spectral range 2900—6000 Å, which is recorded by the Cherenkov counter. The addition of a little fluorescent salt to the water in the counter transfers photons of Cherenkov radiation from the 2900—3500-Å range to the 4500—5500-Å range, in which the maximum sensitivity of photocathodes is found. The effectiveness of recording single μ-mesons entering the counter was 99%, as was determined by a special experiment. Data on the intensity of cosmic rays at sea level and preliminary data at greater depths are given in a table in the original article. The authors express thanks to Professor A. G. Kolesnikov for permission to work in FIAN and MGIANUSSR and also to the heads of the Departments of Physics and Physics of the Sea of Moscow State University for their help. Orig. art. has: 1 table, 2 figures, and 2 formulas. [EG]

SUB CODE: 20/ SUBM DATE: none/ ORIG REF: 001/ OTH REF: 002/ ATD PRESS: 5038

Card 2/2

ACC NR: AP6023554 (N) SOURCE CODE: UR/3095/66/036/000/0026/0030

AUTHOR: Nelepo, B. A.; Romanov, V. I.

ORG: none

TITLE: Use of spectrographic techniques in nuclear hydrophysics

SOURCE: AN UkrSSR. Morskoy gidrofizicheskiy institut. Trudy, v. 36, 1966. Metody i pribory dlya issledovaniya fizicheskikh protsessov v okeane (Methods and instruments for studying physical processes in the ocean), 26-30

TOPIC TAGS: strontium, radiostrontium, spectrographic analysis

ABSTRACT: A spectral method for determining strontium in sea water, developed at the nuclear hydrophysics laboratory, MGI, AN UkrSSR (laboratoriya yadernoy gidrofiziki MGI AN UkrSSR), is described. Because of the necessity of dispersing the spectrum and performing the calculation with different analytical lines of strontium, use was made of a method of spectral analysis of the solution from the fulgurator on an ISP-51 glass spectrograph. The analytical line of strontium was 4607.33 Å, and the reference line was Ca 4581.40 Å. Determinations of strontium by this method at various depths of the Black Sea showed the strontium concentration to decrease with the depth. This finding should be considered in analyzing the distribution of radioactive strontium, since stable strontium may be considered a carrier, and this will introduce a

Card 1/2

ACC NR: AP6023554

change into the estimate of the rate of propagation of radioactive contamination in the ocean. Orig. art. has: 3 figures and 1 table.

SUB CODE: 07,14/ SUBM DATE: none

Card 2/2

NELEPOV, F.S., inzhener; ABROSIMOVA, Ye.P., inzhener.

Adjusting the operation of steam boilers with vertical mill furnaces. Energetik 1 no.7:11-12 D '53. (MLRA 6:12)
(Steam boilers)

MEL'CA, N. A.

MEL'CA, N. A. - "Material on the characteristics of typical [illegible] the gymnastic lesson in a pedagogical vuz". Lenin pri, Ped. State order of Lenin and order of the Red Banner Inst of [illegible] imeni P. F. Lesgaft. (Dissertation for the degree of Candidate of Pedagogical Science.)

So: Vechernaya Leningrad, [illegible], Leningrad, [illegible]

NELHIEBEL, Leo, inz.; HAJDA, Vlastimil

Charging equipment for loose material dumping. Inz stavby 11 no.3: Suppl: Mechanizace no.3:39-42 '63.

1. Vitkovicke stavby, n.p., Ostrava.

NELIALKOV, A.

Surgical tuberculosis in Bulgaria. Izv. Med. inst., Sofia 4-5: 249-274 1951. (CLML 22:3)

1. Doctor, former head of Naval Hospital near the City of Stalin.

REHABEK, J.; AUSKOVA, M.; BURDOVA-JASSEROVA, D.; NELIBOVA, V.

Biologic properties of substitute derivatives of o-aminoazotoluene. Cas.cesk.lek.Ved.priloha 63 no.9-12:286-293 Dec 1950. (CLML 20:9)

1. Of the Institute of General Biology of Charles University and of the Biological Laboratory of the Biochemical Research Institute of the National Enterprise of Czechoslovak Chemical Plants.

NELIDOV, A.

Space for apartment house offices. Zhil.-komm.khoz. 9 no.8:12-13 '59. (MIRA 12:11)

(Lipetsk--Apartment houses management)

L 35920-66 EWT(1)/EWT(m) [redacted]

ACC NR: AT6015892 SOURCE CODE: UR/0000/65/000/000/0001/0016

AUTHOR: Nelidov, A. B.; Samoylov, I. M.; Sokolov, A. A.

ORG: Institute of Nuclear Physics, Siberian Department AN SSSR, Novosibirsk (Institut yadernoy fiziki Sibirskogo otdeleniya AN SSSR)

TITLE: Properties of the magnetic field of the BSB coreless synchrotron

SOURCE: AN SSSR. Sibirskoye otdeleniye. Institut yadernoy fiziki. Doklady, 1965. Kharakteristiki magnitnogo polya bezzheleznogo sinkhrotona BSB, 1-16

TOPIC TAGS: synchrotron, skin effect, magnetic field measurement, orbit perturbation / BSB synchrotron

ABSTRACT: The results of field measurements in the BSB coreless single turn synchrotron are discussed. Field measurements were made during a run with sinusoidal pulse current having ~1 msec rise time. The special shape of the guiding magnetic field in the BSB synchrotron is obtained by the use of the skin effect in the doughnut. The walls of the current carrying element are formed in the shape of an ideal field H. The radius of curvature R of the walls has such a form that $n \sim 0.4$, where $n=r/R$ (r=radius of the orbit). The value of n is a function of the ratio $h/\Delta r$, where h represents the height of the guide; it is also a function of the skin depth. Additional variations of the equilibrium region (for $(0<n<1)$) are due to the geometry of the ring,

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such as feed-in location, beam entrance and beam extraction aperture. The field measurements show the extension of the variation of n around $n \sim 0.4$ in the working region of the ring as a function of the duty cycle with $H(t)$. The degree of orbit perturbation due to field deviations from the azimuthal symmetry was obtained. A series of measurements were made of field deviations due to the presence of metallic plates of different forms and thickness. It was found that the most important field perturbations are due to the nonsymmetrical disposition of the feeders of the inner ring. Such a feed line has a small inductance and is mechanically safe. First, measurements of the magnetic field were made on a scale model (1:1.84) with 4 and 1 kc nonpulsed currents. The choice of h=30 cm and Δr=10 cm was based upon these measurements. Such a configuration gave t=10 cm with $n \sim 0.4$. Later, the measurements were made with pulsed currents. The essential measurements were made at three different times of the sinusoidal current. The first interval t_{m_1}=360 μsec. The second at $t''=t_{m_1}+\delta t$, or 400 + 500 μsec, and t_{m_3}=950 μsec. It was found that at the time of injection, n was about two third hrs. This is an important result, since the field H can change the angle α during the injection. Finally, the field perturbations due to openings and cuts in the ring were found to be small, even for t_m=950 μsec. It was found that the aforementioned configuration of the ring yielded a good region of stability (about 0.4 h) in the ring, that n was near the calculated value, and that the field deviations were small. The measured field deviations correspond to small orbit perturba-

tions (around 3-5 mm). The authors thank G. I. Budker and A. A. Naumov for their advice and for their interest in the work. Orig. art. has: 6 figures, 1 table.

SUB CODE: 20/ SUBM DATE: none/ ORIG REF: 004

L 35914-66 EWT(m) IJP(c) GD

ACC NR: AT6015893 SOURCE CODE: UR/0000/65/000/000/0001/0013

AUTHOR: Livshits, A. A.; Nelidov, A. B.; Samoylov, I. M.; Sokolov, A. A.

ORG: Institute of Nuclear Physics, Siberian Department AN SSSR. Novosibirsk (Institut yadernoy fiziki Sibirskogo otdeleniya AN SSSR)

TITLE: Power supply for the magnet of the BSB coreless synchrotron

SOURCE: AN SSSR. Sibirskoye otdeleniye. Institut yadernoy fiziki. Doklady, 1965. Sistema pitaniya magnita bezzheleznogo sinkhrotrona BSB, 1-13

TOPIC TAGS: synchrotron, synchrotron magnet, pulse transformer, commutator / BSB synchrotron

ABSTRACT: The authors describe a power supply for the pulse magnet of the BSB synchrotron. In an inductive load (~350 cm) a pulse of a special shape is produced with a rise time of 1.5 μsec and a peak current of 10^6 amp. The single turn coreless BSB synchrotron has a small inductance and a large excitation current (the magnetic field at the orbit is ~13.5 oersted). Therefore it is essential to design a sturdy feeder system with small inductance. The magnet supply consists of a condenser bank (0.045 F) which at 5 kn has ~0.56 μjoule stored energy. A pulse transformer (1:10 current ratio) feeds the BSB single turn magnet. The power supply consists of two separate basic parts: the main supply and the auxiliary supply. The auxiliary power supply

Card 1/3

is used for accelerations up to 3 Mev. The condenser battery is divided in two sections charged to +5 kv and -5 kv. By means of vacuum commutators, the discharge current is applied to the primary of the pulse transformer. The electrical parameters of the main circuit are: C_T=11.25·10^{-3} F × 10 kv, L=670 cm, R=3·10^{-4} ohm, Q=2.7, with 20% loss of the peak current. The auxiliary circuit used for accelerations up to 3 Mev is given in figure 1. The repetition rate depends essentially on the power

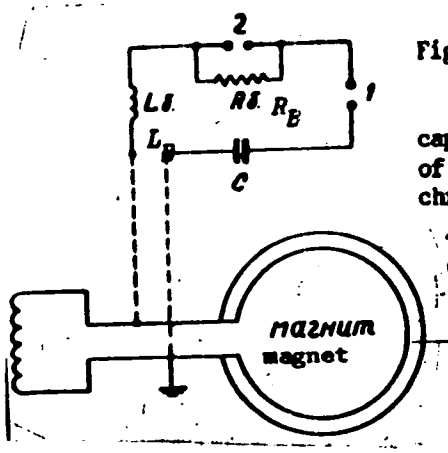

Fig. 1. L_B=20 μh, C=11.50μF × 5 kv, and R_B=0.6Ω.

capacity of the power supply rectifiers. Al~0.7·10^6 A of the magnet current, (corresponding to 130 Mev synchrotron energy) and 2·10 kw the repetition rate B_s ~ ~30 per sec. After several thousand pulses with 0.5-1·10^6 A, there were no deformations observed in this setup. In conclusion, the authors thank G.I. Budker and A. A. Naumov for their interest and counsel, and also G. S. Morozov, M. Ya. Ragutskiy, G. T. Tsikin and Ye. V. Shun'ko for taking part in

L 3[illegible]-66

ACC NR: AT6015893

the development of individual elements of the power supply system. Orig. art. has: 5 figures, 1 table.

SUB CODE: 20/ SUBM DATE: none/ ORIG REF: 001

Card 3/3

ACC NR: AP6031257 SOURCE CODE: UR/0057/66/036/009/1536/1543

AUTHOR: Nelidov, A. B.; Samoylov, I. M.; Sokolov, A. A.

ORG: none

TITLE: Characteristics of the magnetic field of the BSB iron-free synchrotron 19

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 9, 1966, 1536-1543

TOPIC TAGS: electron accelerator, synchrotron, magnetic field

ABSTRACT: The magnetic field configuration of the BSB iron-free single turn synchrotron described elsewhere by G.I.Budker et al (ZhTF 36, 1523 (1966)/see Abstract AP6031256/) has been explored by exciting the magnet with sinusoidal current pulses having rise times of the order of 10^{-3} sec and measuring the field components at different locations with the aid of pickup coils and electronic integrators. The effect on the field configuration of introducing foreign objects (such as copper plates) into the working region was investigated. Some of the field measurements are presented graphically, and possible reasons for the observed field distortions are discussed. The index describing the radial dependence of the field strength was found to be close to the design value of 0.4 throughout a region whose axial extent is nearly half the height of the chamber, and the field distortions were found to be such as to shift the

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ACC NR: AP6031257

beam by some 3 to 5 mm. It is concluded that the internal equipment required for synchrotron operation (the accelerating resonator, measuring equipment, and the like) can be so designed as to produce no appreciable additional distortion of the field. The authors thank G.I.Budker and A.A.Naumov for their interest and advice. Orig. art. has: 6 figures.

SUB CODE: 20/ SUBM DATE: 27Sep65/ ORIG REF: 004/ OTH REF: 000

Card 2/2

L 11426-67 EWT(m) IJP(c)
ACC NR: AP6031256 SOURCE CODE: UR/0057/66/036/009/1523/1535

AUTHOR: Budker,G.I.; Medvedev,P.I.; Mostovoy,Yu.A.; Nezhevenko,O.A.; Nelidov,A.B.; Ostreyko,G.N.; Panasyuk,V.S.; Samoylov,I.M.

ORG: none

TITLE: The BSB iron-free single turn synchrotron

SOURCE: Zhurnal tekhnicheskoy fiziki, v.36, no. 9, 1966, 1523-1535

TOPIC TAGS: electron accelerator, synchrotron

ABSTRACT: This paper is concerned with the type BSB iron-free single turn synchrotron developed at the IYaF CO AN SSSR for injection of up to 180 MeV electrons into a storage ring. A general description of the machine has been given elsewhere by Ye.A. Abramyan and 22 other authors (Transactions of the International Conference on Accelerators, Dubna, 1963, p.1065, Atomizdat, M., 1964). In the present paper certain features of the accelerator are described in somewhat more detail, including the magnet, the magnet power supply, and the injector, and the adjustment of the machine is discussed. The magnet winding consists of two concentric duralumin rings between which the beam circulates. The outer ring is capable of withstanding a magnetic pressure of 50 atm, and the geometry is such that the inner ring is in equilibrium under the magnetic forces, being subjected only to a hydrostatic pressure. The magnet is powered by a 0.045 F capacitor bank charged to 10 kV. The maximum magnet current is about

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ACC NR: AP6031256

10^6 A, corresponding to an electron energy of 180 MeV. There are two auxiliary capacitor banks which are discharged at selected phases of the cycle to control the time dependence of the magnetic field. Injection of 600 kV electrons is accomplished during a single revolution of the captured electrons. The discharge of the auxiliary and main capacitor banks is so timed that the field is approximately constant during injection. The rf accelerating voltage is frequency modulated from 103.5 to 116 MHz, and is applied to the beam with the aid of a single resonator with a Q of 200. Some difficulties were encountered in the adjustment of the machine, but none that could not be overcome. It was possible to inject about 1.2 A of 600 kV electrons into the approximately constant field, and to accelerate some 20 % of the injected electrons. The maximum beam current was found to be limited by longitudinal space charge effects (the negative mass effect), rather than by transverse space charge effects. It is suggested that higher currents might be achieved with a strong focusing iron-free pulsed machine. The authors thank A.A.Naumov for his interest and discussion, A.A. Fedchenko for organizing the fabrication of the main parts of the accelerator, and A.I.Kendrukhin, A.A.Ivshitz, and P.G.Kharchenkov for participating in the development of certain parts of the accelerator. Orig. art. has: 3 formulas and 6 figures.

SUB CODE: 20/ SUBM DATE: 27Sep65/ ORIG REF: 000/ OTH REF: 001

Card 2/2 bsb

NELIDOV, I., kand.tekhn.nauk

Cybernetics and planning. NTO 5 no.10:8-10 O '63. (MIRA 17:1)

L 11425-67 EWT(1)...IJP(c)

ACC NR: AP6031258 SOURCE CODE: UR/0057/66/036/009/1544/1549

AUTHOR: Livshits, A.A.; Nelidov, A.B.; Samoylov, I.M.; Sokolov, A.A.

ORG: none

26
20

TITLE: Magnet power supply for the BSB iron-free synchrotron 9

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 9, 1966, 1544-1549

TOPIC TAGS: electron accelerator, synchrotron, magnet, power supply

ABSTRACT: The authors describe in some detail the power supply for the magnet of the BSB single turn iron-free electron synchrotron described elsewhere by G.I.Budker et al. (ZhTF 36, 1523 (1966)/see Abstract AP6031256/). The main power supply is a 5 kV 0.045 F capacitor bank coupled to the single turn synchrotron magnet with a pulse transformer that steps the current up by a factor of 10. The pulse transformer consists of a 40 turn primary and a 4 turn secondary of heavy copper strip on a 600 cm^2 cross section ring-shaped rectangular core of transformer steel sheets. Design features of the pulse transformer that enable it to withstand the electrodynamic forces incident to supplying a secondary current of up to 10^6 A are discussed. The pulse transformer operates with superposed magnetization, which is provided by discharge through the primary of an auxiliary capacitor bank prior to the discharge of the main

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capacitors. The time dependence of the magnet current required for synchrotron operation is achieved with the aid of an auxiliary supply containing one or two capacitor banks, which are discharged at appropriate times prior to discharge of the main capacitor bank. Two successful variants of the auxiliary supply are described. The duration of the operating pulse is 1.8 millisec. The described supply operates at the rate of one pulse every 30 sec; the pulse rate could be increased by a factor of 10 by employing larger rectifiers for charging the capacitors and providing appropriate cooling. The authors thank G.I.Budker and A.A.Naumov for their interest and advice, and G.S.Morozov, M.Ya.Rogutskiy, G.T.Taikin, and Ye.V.Shun'ko for their participation in the development of different parts of the power supply. Orig. art. has: 4 figures and 1 table.

SUB CODE: 20/ SUBM DATE: 27Sep65/ ORIG REF: 001/ OTH REF: 000

NELIDOV, I.Ye., kandidat tekhnicheskikh nauk, dotsent.

Problems in the economics and organization of production in the electric machinery industry and tasks in teaching economics of the industry. Vest.elektroprom. 27 no.9:67-72 S '56. (MLRA 10:9)

1. Moskovskiy energeticheskiy institut imeni V.M.Molotova.
(Electric machinery industry) (Economics--Study and teaching)

MELIDOV, I.Ye., kandidat tekhnicheskikh nauk, dotsent.

Methods for calculating the duration of manufacturing cycles in the machine building industry. Vest.mash. 36 no.74-76 0 '56.
(MLRA 9:11)

(Machinery industry--Production control)

KLimov, A N.

25(5) PHASE I BOOK EXPLOITATION SOV/1592

Leningrad. Inzhenerno-ekonomicheskiy institut

Organizatsiya i planirovaniye ravnomernoy raboty mashinostroitel'nykh predpriyatiy; Mezhvuzovskoye soveshchaniye. Doklady (Organization and Planning of Uniform Work in Machine-building Enterprises; Conference of Vuzes. Reports) Moscow, Mashgiz, 1958. [illegible] (Series: Its: Trudy, vyp.22) 4,000 copies printed.

Eds.: S.A. Volkov, and E.G. Tatevosov.; Tech. Ed.: L.V. Sokolova; Managing Ed. for Literature on Machine-building Technology (Mashgiz): Ye.P. Naumov, Engineer.

PURPOSE: This collection of articles is intended for engineering and technical personnel in machine-building establishments, and for scientific workers and students of institutes and departments of engineering and economics.

COVERAGE: This collection of articles contains reports by workers from vuzes, scientific research institutes, and industrial establishments presented at the conference of vuzes on the subject: "Organization and Planning of Uniform Operations in Machine-building Establishments." These reports discuss general problems encountered in organization, analysis, and theory of uniform production, as well as problems in schedule planning, technical preparation, and production specialization.

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Maliday, I.Ya., Docent, Candidate of Technical Sciences (Moskovskiy energeticheskiy institut [Moscow Power Engineering Institute]). Production Rhythm and Utilization of Productive Capacity in Machine-building Plants Specializing in Individual and Small Lot Production (Based on the Example of Power Machinery-manufacturing Plants) 94

25(5) PHASE I BOOK EXPLOITATION SOV/1822

Nelidov, Igor' Yevgen'yevich

Ekonomika i organizatsiya energomashinostroyeniya (Economics and Organization of Power Equipment Manufacturing) Moscow, Gosenergoizdat, 1958. 391 p. Errata slip inserted. 4,300 copies printed.

Ed.: V.S. Siletskiy; Tech. Ed.: K.P. Voronin

PURPOSE: This book is intended as a text for students in technical vuzes; it will also be of use to engineering and technical personnel in power equipment plants.

COVERAGE: This work is intended to serve as the textbook for a course entitled "Economics of Power Equipment Manufacturing; Organization and Planning of a Power Equipment Manufacturing Establishment" offered in technical vuzes. The work describes the special features, objectives, and developmental phases of the Soviet power equipment manufacturing industry and discusses all basic problems related to the economics and organization of production of basic types of power

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equipment. The author thanks Candidates of Technical Sciences, Docent L.Ya. Shukhgal'ter and V.S. Siletskiy; Candidate of Economic Sciences, Docent A.Ya. Doktorovich; and engineers F.Sh. Sabitov, M.I. Vizgun, N.S. Nelidova, and V.V. Furayeva. There are 43 references, all Soviet.

TABLE OF CONTENTS:

MELIDOV, I.Ye., dots., kand.tekhn.nauk

Rhythmical work flow and utilization of production capacity in machinery plants with piece and small lot production; experience of power-machinery plants. Trudy LIEI no.22:94-105 '58.
(MIRA 11:12)

1. Moskovskiy energeticheskiy institut.
(Machinery industry)

NELIDOV, [illegible], kand. tekhn. nauk, [illegible], kand. tekhn. [illegible], red.

[Cycles of the [illegible], manufacture and operation of machines in [illegible] and [illegible] and [illegible] of the analysis of their [illegible] efficiency] [illegible] osvoeniia, izgotovleniia i [illegible] mashin [illegible] nogo i melkoseriinogo proizvodstva i metodika analiza ikh ekonomichnosti. Moskva, [illegible] 19[illegible]. [illegible]
(MIRA [illegible])

FEDOROVICH, M.M., prof.; CHEREYSKAYA, N.N., dots., kand. ekon. nauk; NELIDOV, I.Ye., dots., kand. tekhn. nauk; KOZHIN, L.P., kand. ekon. nauk; RUMYANTSEVA, Z.P., dots., kand. ekon. nauk; BUGROV, Ye.P., doktor tekhn. nauk, prof.; SKVORTSOVA, N.T., kand. ekon. nauk; FEDOROVICH, M.M., prof., red.; PETRUSHEV, I.M., red.; PONOMAREVA, A.A., tekhn. red.

[Mathematical methods in production planning] Matematicheskie metody v planirovanii proizvodstva. Moskva, Izd-vo ekon. lit-ry, 1961. 150 p. (MIRA 14:8)

1. Moskovskiy inzhenerno-ekonomicheskiy institut im. S.Ordzhonikidze (for Fedorovich, Chereyskaya, Nelidov, Kozhin, Rumyantsev, Bugrov, Skvortsova)

(Economics, Mathematical)

MELIDOV, N.N.

KASHTANOV, S.G. (Kazan'); AFANAS'YEV, T.P. (Kazan'); MELIDOV, N.N. (Kazan')

Underground waters of the Volga-Kama region. Uch.zap.Kaz.un. 115 no.10:126-129 '55. (MLRA 10:5)
(Volga Valley--Water, Underground)

15-57-7-9975

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 7, p 179 (USSR)

AUTHORS: Nelidov, ~~N. N.,~~ Kashtanov, S. G.

TITLE: Effect of Local Feeding Recharge on the Formation of Ground Water in the Volga and Kama River Valleys (O vliyanii mestnykh oblastey pitaniya na formirovaniye podzemnykh vod v dolinakh rek Volgi i Kamy)

PERIODICAL: Uch. zap. Kazansk. un-ta, 1956, Vol 115, Nr 16, pp 211-218

ABSTRACT: Under the action of drainage the rate of seepage of ground water increases in the vertical as well as the horizontal direction at the focal points of discharge. As a result, the mineralized waters rise and saturate alluvial deposits. The opposite case is true in sectors where alluvial terraces constitute the local recharge regions. Here the mineralized water is forced

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Effect of Local Feeding Recharge (Cont.)

down under pressure of fresh water. Chemical analysis confirms the process of "forcing down" of the mineralized waters in the environs of Kazan' on a terrace up to 35 m in elevation. (The boundary of mineralized waters in the valley of the Volga River lies between the +20 and +30 m elevations.) Similar conditions exist in the Kama River valley in the area near the town of Yelabuga. These phenomena should be considered in studying problems of water supply.

Card 2/2 I. K. Gabich

KASHTANOV, S.G.; NELIDOV, N.N.

Relationship between the dome and depression types of horizons bearing mineralized water in the Volga Valley. Trudy Lab.gidrogeol. probl. 16:82-85 '58. (MIRA 12:2)

1. Kazanskiy gosudarstvennyy universitet.
(Volga Valley--Water, Underground)

NELIDOV, N.N.; GUBAYDULLIN, A.M.

Recent vertical tectonics in the Kazan region and their role in the formation of karst. Uch.zap.Kaz.un. 121 no.6:54-61 '61.
(MIRA 14:10)

(Kazan—Karst)

MELIDOV, V.

Efficient device for chrome plating automobile parts. Avt.transp. 33 no.7:25 Jl'55. (MLRA 8:12)
(Chromium plating)

[redacted], V., doctorant

Automobile repair plant fleet heavy-duty boring machines.
Avt. transp. 35 [illegible] 12. (MIRA 15:2
[illegible] and boring machinery)

NELIDOV, V., dots.

Efficiency of chromium plating of some automobile parts. Avt. transp. 36 no.3:26-37 Mr '58. (MIRA 11:3)
(Chromium plating)

KHODOROV, Ye.I., kandidat tekhnicheskikh nauk; MELIDOV, V.A., inzhener.

Disc crusher. Tsement 21 no.6:10-14 N-D '55. (MLRA 9:5)
(Crushing machinery)

NELIDOV, V.A.

KHODOROV, Ye.I., kandidat tekhnicheskikh nauk; NELIDOV, V.A., inzhener.

Disk granulator. Trudy GIPROTSEMENT 19:133-147 '56. (MLRA 10:4)
(Granular materials) (Mixing machinery)

TKACHEV, V.V.; LEYCHENKO, I.Ya.; OGANESOV, V.M.; OMISHCHENKO, I.S.; NELIDOV, V.A.; SERKACHEV, O.V.; BOGIN, A.M.

Using separator mills in making cements of various specific surface areas. TSement 26 no.2:13-20 Mr-Ap '60. (MIRA 13:6)

(Cement) (Milling machinery)

NELIDOV, V.A.

Measuring the specific surface of powders. Trudy Giprotsement no.24:42-63 '62. (MIRA 16:4)
(Powders)

NELIDOV, V.A.

Improvement in the method of determining the specific surface of powders. TSement 28 no.2:15-17 Mr-Ap '62. (MIRA 15:8)

1. Gosudarstvennyy institut po proyektirovaniyu predpriyatiy i nauchno-issledovatel'skim rabotam tsementnoy promyshlennosti.
(Powders)

NELIDOV, V.A.

Efficient granulometric composition of cement and methods for its study. Trudy Giprotsement no.27:56-89 '63.

(MIRA 17:12)